

REMARKS

This is in response to the Office Action mailed September 18, 2003, in which claim 18 was withdrawn from consideration and claims 1, 2 and 4-17 were rejected. With this Amendment, claims 1, 5, 6, 9, 11, 14 and 17 have been amended and claim 10 has been cancelled. Reconsideration of the application as amended is respectfully requested.

As a preliminary matter, Applicant requests that the Examiner acknowledge that the references cited in the Information Disclosure Statement filed April 26, 2001 have been considered. A copy of the Information Disclosure Statement is enclosed herein along with a copy of the return postcard indicating receipt by the USPTO. Applicant requests consideration and entry of the cited references.

In the Office Action, the Examiner has withdrawn claim 18 from prosecution as being drawn to a non-elected invention. Applicant requests that claim 18 be reentered into the prosecution of the present application as being dependent from generic or linking claim 17. Reconsideration of the restriction is respectfully requested.

In Section 4 of the Office Action, the Examiner rejected claim 17 under 35 U.S.C. §112, second paragraph, as failing to set forth the subject matter which Applicant regards as the invention. In particular, the Examiner based the rejection on a change in the scope of claim 17 by the Amendment filed June 27, 2003. Applicant respectfully believes that the rejection is improper.

There is no authority to support the Examiner's position that 35 U.S.C. §112, second paragraph prohibits changes to claims through amendment, and more particularly, the broadening of claims through amendment. Such broadening and narrowing of the scope of claims through amendments are common

practice during the prosecution of patent applications. Therefore, claim 17 precisely describes the subject matter that Applicant regards as the invention. Accordingly, Applicant believes that the rejection is improper and requests that the rejection be withdrawn.

In Section 9 of the Office Action, the Examiner rejected claims 1, 2, 4-9, and 11-17 under 35 U.S.C. §103(a) as being unpatentable over Kanai et al. (U.S. Patent No. 5,898,546). Applicant respectfully disagrees with the Examiner's assessment of the cited reference and the prior art.

The Examiner found the hard magnetic layer 32 of Kanai et al. to teach the claimed permanent magnet of claim 1. In particular, the Examiner found the hard magnetic layer 32 of Kanai et al. to be located on the "bottom of the stack", but found that it would have been obvious to one having ordinary skill at the time the invention was made "to have alternatively provided it on top of the first and second ferromagnetic free layers." The Examiner further found support for such a reversal of the location of the hard magnetic layer 32 to be provided in Kanai et al. at column 18, lines 9-14. Applicant respectfully disagrees with the Examiner's assessment of Kanai et al.

The cited passage of Kanai et al. does not provide any suggestion of moving the hard magnetic layer 32 of FIGS. 6(a) and 6(b) to the opposite side of the stack. Instead, the cited passage discusses the structure of FIG. 9B as being a reversely laminated structure in contrast to the structure shown in FIG. 8A. Accordingly, Applicant submits that there is no suggestion or motivation for changing the position of the hard magnetic layer 32 of Kanai et al.

Additionally, even if a sufficient motivation or suggestion to move the hard magnetic layer 32 of Kanai et al. to the opposite side of the stack could be found, such a modification to Kanai et al. would not result in the invention

described in claim 1. In particular, the hard magnetic layer 32 is positioned to a side of the cited first and second ferromagnetic free layers of Kanai et al. The position of the hard magnetic layer 32 of Kanai et al. is positioned to a side of the cited first and second ferromagnetic layers at the air-bearing surface, which is designated by H_{sig} shown in FIGS. 3(C), 4(C), and 5(C). Even if the position of the hard magnetic layer 32 was changed to the opposite side of the stack, it would still be positioned to the side of the cited first and second ferromagnetic free layers at the air-bearing surface. Accordingly, even with the suggested modification to the location of the hard magnetic layer 32, it is still not positioned "above the first and second ferromagnetic free layers opposite an air bearing surface", as described in claim 1.

Therefore, Applicant submits that claim 1 is neither taught nor suggested by the cited reference and requests that the rejection be withdrawn. Additionally, Applicant submits that claims 2 and 4-8 are allowable as being dependent from allowable base claim 1, and requests that the rejections be withdrawn.

With regard to independent claims 9, 11 and 17, the Examiner took Official Notice that biasing by anti-ferromagnetic layers is "notoriously old and well known, and substituting this biasing configuration for the permanent magnet biasing (for example) as taught by Kanai et al. would have been obvious to and within the knowledge of a skilled artisan." Applicant respectfully disagrees with the Examiner's assessment of the cited reference and the prior art and believes that the rejection is improper.

In particular, although the Examiner found the use of anti-ferromagnetic layers as biasing components to be "notoriously old and well known", the Examiner has failed to provide a single reference that shows the existence of such knowledge. Applicant respectfully traverses the Examiner's

assertion and requests a showing of a reference in support therefore, as required by MPEP 2144.03. Furthermore, if the Examiner should produce such a reference, Applicant requests that the Examiner explain how the reference teaches the claimed invention when combined with Kanai et al.

Even assuming that the Examiner is correct in the assertion that anti-ferromagnetic layers are commonly used as biasing components, that finding is still insufficient to form an obviousness rejection against the claims. The Federal Circuit has stated, "virtually all [inventions] are combinations of old elements." Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983). The Federal Circuit has also found that rejecting patents solely by finding prior art corollaries for the claimed elements would permit an Examiner to use a claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention, which would be "an illogical and inappropriate process by which to determine patentability." Sensonics, Inc. v. Aerasonic Corp., 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996). Accordingly, even seemingly simple changes require a finding of a suggestion in the prior art to make the modification to avoid the improper use of hindsight. In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984).

Therefore, even if the Examiner can produce a reference that teaches the use of anti-ferromagnetic layers as biasing components, there must be some motivation to combine that teaching with Kanai et al. Applicant submits that the Examiner's finding that "substituting between known biasing methods would have involved routine skill resulting through routine engineering optimization" is insufficient to provide the necessary motivation. Assuming the Examiner's statement to be correct, Applicant submits that the mere fact that it would be possible to

perform such a substitution does not constitute any motivation or suggestion to actually perform the substitution and, more particularly, to modify Kanai et al. in such a manner as to render independent claims 9, 11 and 17 obvious. Instead, Applicant believes that the Examiner has improperly relied upon the teachings of Applicant's disclosure to discern the "obviousness" of the claimed invention. Such use of hindsight is improper. *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002) ("It is improper, in determining whether a person of ordinary skill in the art would have been led to this combination of references, simply to '[use] that which the inventor taught against its teacher.'") (quoting *W.L. Gore v. Garlock, Inc.*, 220 USPQ 303, 312-13 (Fed. Cir. 1983)).

Additionally, Applicant submits that claims 9, 11 and 17 are allowable since the cited reference fails to teach all the elements of the claims. In particular, there is no showing by the Examiner of the claimed permanent magnet biasing component (claims 1 and 9) or a biasing component that includes first and second anti-ferromagnetic layers that are respectively exchange coupled to first and second ferromagnetic free layers, which have magnetizations M_1 and M_2 that are oriented in anti-parallel first and second directions. Additionally, there is no showing of first and second anti-ferromagnetic layers that respectively produce a bias magnetization field that biases M_1 and M_2 in a third direction that is transverse to the first and second direction. Applicant submits that such a showing of the biasing component and other features described in claims 9, 11 and 17 is required to form a *prima facie* case of obviousness against claims 9, 11 and 17.

For the reasons set forth above, Applicant submits that the Examiner has failed to establish a *prima facie* case of obviousness against claims 9, 11 and 17, and requests that the objections be withdrawn. Additionally, Applicant submits that

claims 12-16 are allowable as being dependent from allowable base claim 11 and, request that the rejections be withdrawn.

In view of the above comments and remarks, Applicant respectfully believes that the present application is in condition for allowance. Reconsideration and favorable action is respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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